

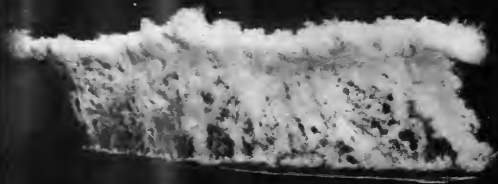
AVIATION

The Oldest American Aeronautical Magazine

NOVEMBER 12, 1923

Issued Weekly

PRICE 10 CENTS



Puzzle Picture—Find the Anti-aircraft Guns on the Battleship!

VOLUME
XV

SPECIAL FEATURES

NUMBER
20

AVIATION AND THE NAVY
GOODYEAR ACQUIRES ZEPPELIN PATENTS
REQUIREMENTS OF A MAN-POWERED AIRPLANE
NAVY FLIERS MAKE NEW WORLD'S SPEED RECORDS

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

Entered as Second-Class Matter, Nov. 22, 1920, at the Post Office at Highland, N. Y.
under Act of March 3, 1879.

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THE remarkably low fuel and oil consumption, together with the extremely light weight per horsepower make the Wright "T" engine the most efficient thus far produced.

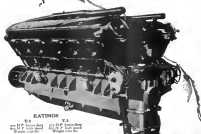
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WRIGHT MODELS T ENGINES

NOVEMBER 12, 1933

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AVIATION

Vol. XV

NOVEMBER 12, 1933

No. 29

Aviation and the Navy

CAPTAIN LUKE MCNAMERE, Director of Naval Aviation, has attempted to correct elsewhere in this issue the misunderstanding among the general public as to the status of the Navy towards aviation. He handles the acute subject of the battleship versus aircraft in a way that we believe will not be entirely convincing.

In stating among other things that the defensive protection against air attack will be taken care of by "adding blasters or explosives" to the older ships' sides to protect the ship's vital areas from bombs exploding nearby in the water, additional anti-dive will be added to old battleships to prevent penetration of the bombs that drop on board. This statement is of great importance as it will bring up in the discussion of Naval appropriations the advisability of spending money to rebuild the older ships in the way he suggests. As to the probability of the plan, it is highly probable that Captain McNamee can convince the Congressmen who has seen the hanging pictures of 1923 and 1924 that an old battleship could be protected from aircraft bombs by other blasters or any number of steel decks.

The most important part of his statement is his assertion that "in spite of an expenditure on aircraft of over one billion dollars each year since 1915, we have not today any kind of an aircraft we would need in our war tomorrow." This is due to the short life of aircraft, the high cost of development and the frequency of crashes and operating accidents. Two-thirds of that cost would build a navy bigger than we have now—a navy that would be good for twenty years. "To make for the economy argument." This is the first time, to our knowledge, that a responsible officer has definitely assumed the total war cost of aviation to the Army and Navy. If this statement is accurate it would fix the cost of Naval Aviation at the absurd figure of about a billion dollars; an eight hundred million dollar would seem to be a very high figure to set on the cost of the Army Air Service during and since the war, using the figures given out by General Patrick. Captain McNamee will probably be asked to give the authority for his figure of one billion eight hundred million dollars.

The statement brings up the question of comparing the cost of various activities—a new development—with the cost of a present-day navy. The avowed purpose of this statement was to correct misunderstandings. Would it not have been more helpful to explain at a time when the appropriations are being considered, to omit reference to the wartime expenditures and compare naval and aviation expenditures in terms of price. At present Naval aviation is allowed five per cent of the total naval appropriation.

Every fighting pilot in the Navy and Army will be surprised by Captain McNamee's concluding observation as to the status of flying that the pilot engages in. He says, "The Navy is going ahead developing its aviation to the limit of

its appropriations, but it hasn't forgotten that it isn't the man that hits and runs away that wins the fight." A reasonable interpretation of this view of the mission of fighting aircraft might be that the airplane pilot "hits and runs away." We cannot believe that the Director of Naval Aviation implied any reflection on the bravery of our pilots who fearlessly fought to the death in the air, setting an example of seeking out the enemy in his own territory.

A Necessary Amendment

NOW that the International Aeronautical Federation has duly recognized the new world's records established with the assistance of a refereeing plane by Capt. Lowell H. Smith and Lieut. John P. Rickard of the Army Air Service, it seems timely and proper to raise the question of the desirability of recognizing further records made in this manner. We have done so before the F.A.I. passed on these records would have been unfair in the two pilots in question, for it might have impaired their chances of having their very remarkable and difficult performance given official recognition.

The whole question, in our way of looking at it, is this: The purpose of an airplane record is not so much to stimulate technical skill and progress as to encourage technical development in the airplane. Now, while the successful and repeated demonstration of airplane refueling is to be regarded a most important and valuable technical development, there remains the fact that the success of airplane design did not in the least profit by this particular record. The plane with which this record was made, in all respects a standard DHD, could tomorrow be flown for a week or two weeks, or in fact until the Liberty engine required overhauling, at an additional fuel and fuel cost even more would also be transferred from a competing aircraft. And this appears quite feasible, though admittedly difficult.

That such a performance would vitiate the very purpose for which some airplane records are made, seems too obvious to require much elaboration. It would simply mean the stagnation of airplane design in one of the most important requisites of progress, load carrying efficiency, which after all means more efficient aircraft and aerodynamic combinations, and more reliable and economical aircraft engines.

It follows from the above that the F.A.I. rules governing records of maximum duration and maximum distance should include the reservation "without refueling." As a amendment to the effect, submitted to the F.A.I. by the National Aeronautics Association, while highly desirable in technical grounds, would also wipe out the belief harbored in some foreign circles that we are living up to the letter rather than to the spirit of the F.A.I. rules.

The National Aeronautics Association has been a splendid opportunity for giving the international aviation world another proof of true American sportsmanship.

World's Maximum Airplane Speed Record Beaten

Navy-Curtiss Racer Piloted by Lieut. Alford J. Williams, U.S.N.
Makes 266.6 mi./hr. over 3 km. Course

The world's straightaway speed record for airplanes, held by Lieut. Donald L. Macgregor, A.S., with 258.6 mi./hr., was beaten four times in succession within three days by Lieut. Alford J. Williams and Harold J. Brew, U.S.N. Flying the Navy-Curtiss racer at Mitchell Field, Mineola, L. I., at the close of racing in the highest wind was attained by Lieutenant Williams on Nov. 4 with an average speed of 266.6 mi./hr., while Lieutenant Brew's best performance, made the same day, was 265.9 mi./hr.

The friendly contest between the two pilots which developed in the Pulitzer Trophy race, when Williams and Brew finished second, was officially observed for the National Aeronautics Association by Maj. William N. Hensley, A.S., commander of Mitchell Field. The speed trials were conducted on a specially lined 3 km. course, each trial consisting of four flights in alternately opposite directions to compensate for any wind that might accelerate or retard the speed of the plane. The course extended from the southeast corner of Mitchell Field to the northwest corner of Garden Field, Garden City. Free hundred meters beyond each control observation point were established to insure that the pilots were in horizontal flight before reaching the "finish" line of the speed course papers.

Under the rules of the International Aeronautics Federation restrictions were required to fly not higher than 50 m., approximately 164 ft. By virtue of this regulation the race was conducted to approximate the amazing speed which the race was making over the course.

The Run of Records

The first of these speed trials took place Nov. 3, when Lieutenant Brew covered the course at an average of 257.42 mi./hr. Then Williams went up and came back to find that he had made 258.6 mi./hr., beating Brew's mark by more than one mile. He was off. He covered the course twelve times, when Brew walked over to his ship and shouted for his mechanics to "leave the prop." He was off in a flash and raised the record another notch, making an average of 259.15 mi./hr.

This ended the day's performances. Williams was one of the first to congratulate him.

"Pretty good, Brew," he said, "but I'm going to beat it tomorrow."

His trials were made the following day on account of an inclement wind but on Nov. 4 the friendly rivalry was resumed, bringing about amazing results.

At 2 p. m. Williams climbed into his plane. The motor roared. He was off. He covered the course twelve times, making six round trips. His best four consecutive trips were 261.5 mi./hr., seventh and eighth. They gave him an average of 263.1 mi./hr. and the honor of having defeated Brew and his record championship of the world. He was off in a flash and raised the record another notch, making an average of 265.9 mi./hr. Williams congratulated him, and called his mechanics to leave up No. 10.

Lieutenant Brew flew the course just four times. On his last trip he beat his own three kilometers at 24.6 seconds, or a speed of 271.2 mi./hr. This was with the wind and was the best time made over the course. His average speed for the four trips was 265.99 mi./hr., which at that point he had beaten by a distance of two miles and a half. He was off in a flash and raised the record another notch, making a thrilling moment for the 2,000 persons who had gathered to watch the test.

Lieutenant Williams already had defied his master for a day and was waiting to finish into a flight plan which he was to fly in Van Cortlandt Park, where 20,000 of his fellow Americans were waiting to honor the winner of the Pulitzer Trophy.

"Congratulations, Brew," Williams exclaimed heartily as he

climbed Brew's land. "You beat me, all right, but I'll go up after my own record tomorrow."

Then the big aviator turned and slowly turned the wing Vaulter. There he hovered for an instant—and stamped his mark.

"Get the old land ready, boys," he said, turning to the crew of his ship with sudden decision. "I'm going up again."

The spectators were as excited as children who they held the news. Here was the greatest speed contest in the world.



The world's fastest four congratulate each other—Lieut. Alford J. Williams and Lieut. Harold J. Brew and Lieut. Alford J. Williams.

Williams climbed into his plane. A mechanic took hold of a propeller. Brew's crew were there, holding hands, took his hand to pull him out of the way.

"Contact!" yelled the spectators.

"Contact," replied Williams.

The three mechanics swung in unison and pulled. The engine lurched and spluttered and then settled down to a steady roar. Williams turned out into the field, back to the air, saving and flying to about 5000 ft. to get clearance and a good starting distance behind the line. And then the plane shot about midred hot fire.

The Crowd Gapes

Williams came down 5000 ft. in just about nothing, unscathed and his plane and his machine from the ground and roared over the course with vicious determination.

The crowd gaped. It looked as if the plane would get its elevation before it reached a group of hangars. But it did. Williams had achieved it and it was the closest shave he ever had in his life.

He covered the course back and forth six times. The splash over the apron told him how he was doing. A big group of men came striding on the ground into a line up, and when he was flying behind. A big up told him when he was coming his competitor. A dash sign told him he had better hurry.

He had just cleared the field on his 210 ft. trip at a speed of 334.4 mi./hr. when the spectators got their most. A squadron of Martin bombers from Albrook, Md., appeared in the sky at maybe thirty miles an hour. They were five at first, some of them taking part in the future of the Army Relief Fund. They take nothing of the speed in

November 12, 1923

AVIATION

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and set up over the field with ponderous grace to negotiate a landing.

The Martin bombers were directly overhead, being altitude of the time, when Williams came leaving through the air at a rate of 265 mi./hr. At this speed a pilot can't see much of anything especially when he is alone a world's record. Williams went right through the formation, never allowing his nose one inch. If chance had not timed the arrival of the bombers to find them on an opening for him—well, the world would have stopped right there.

He came down and got the timer's report. He had averaged 265.9 mi./hr. in two round trips over the course, day told him and he bettered Brew's performance by .61 of a mile. Williams was now more the world's speed record holder than any man's hand.

"Well, Harold," said Williams, "we're having lots of fun again."

"It's just you yet," replied Brew.

The following tables show the time and speed by Williams and Brew in the speed trials on Nov. 4.

Attempts	Speed per Lap	Speed on Lap
1	260.0	261.2
2	261.0	262.4
3	262.0	263.6
4	263.0	264.8
Average speed, 265.3 mi./hr.		
Brew		
1	258.0	259.2
2	259.0	260.4
3	260.0	261.6
Average speed, 263.6 mi./hr.		
Attempts	Speed per Lap	Speed on Lap
1	265.0	266.2
2	266.0	267.4
3	267.0	268.6
4	268.0	269.8
Average speed, 266.6 mi./hr.		

Goodyear Co. Acquires Zeppelin Airship Patents

Goodyear to Organize Lighter-than-Air Manufacturing Company
Granting Zeppelin Co. Minority Interest

As one of the greatest importance for the future of lighter-than-air development has just come to a head with the several companies of engineers and designers, the Goodyear Tire & Rubber Co. of Akron, Ohio, and the Zeppelin Co. of Friedrichshafen, Germany, for the acquisition by the latter firm of all the airship manufacturing rights of the former company.

The Goodyear company has made the following announcement with reference to this agreement—

Announcement by Goodyear Co.

"As a company subsidiary to Goodyear, we shortly be acquired for the purpose of manufacturing lighter-than-air ships and all requirements of that branch of aviation. The new company will be managed and controlled by Goodyear, and the Zeppelin patents will be a minority interest in the company in exchange for their patent rights and the value of their technical staff. There has been no payment made by Goodyear to Zeppelin and no consideration has been given to the acquisition of patent rights. The sole consideration to Zeppelin is a minority interest amounting to one-eighth share in the results of the business."

The Goodyear Tire & Rubber Co. has long been the leading power in this country of lighter-than-air craft, and the principal source from which the Government has obtained its rigid and semi-rigid ships. The company is at this time busy with the development of rigid and semi-rigid ships, and the results accomplished so far with this type of vehicle, Goodyear resolved to try to acquire no position as leading producer of ships in this country, and to keep its ability to continue its rigid ship development.

In the spirit also of keeping the world's best aircraft with world-development in lighter-than-air ships, Goodyear wished to supplement its own technical staff with the best technical experience obtainable in the world. The Zeppelin Co., which is now building a rigid ship at Friedrichshafen for this Government, seemed unquestionably a first in opportunity which could not be duplicated elsewhere. It was a company which had spent more than one hundred years, and had gradually built up a volume of technical experience and a staff of experts superior to any other. These achievements required world recognition, and Goodyear, in the spirit of the world's best aircraft, decided to supplement with outstanding success, including the occasional and safe transportation of many thousands of persons.

The terms of this agreement make it impossible to estimate the construction or commercial exploitation of airships

in Germany, and the negotiations just concluded by Goodyear make it possible to transfer to America all the benefits and experience obtained by the Zeppelins during their long struggle to experiment and develop.

"The practical success of lighter-than-air aviation are more readily accepted in Europe because of its closer contact with the starting months' steady effort. Confidence in this country is rapidly growing with the performance of the Hindenburg, and there is every reason to hope that America may now secure a leading and perhaps a dominant position in the introduction of rigid airships for both military and commercial uses. The arrangement just consummated secures to Goodyear exclusive rights in the United States and Canada, and therefore does not preclude formation of a similar industry elsewhere. This question is to whether we shall lead in this line therefore depends on the arrangements with which the American industry is launched and conducted."

"Goodyear management is confident that the day of aerial transportation is at hand and that rigid airships will soon demonstrate their practicability for long distance use on both land and sea, and with that confidence is now preparing itself to meet the country's requirements for that type of craft. A skilled and experienced technical staff will be at work at Akron within sixty days, prepared to cooperate with the authorities at Washington and act as other responsible interests who may desire to establish upon definite constructive projects. This industry is the only one of the kind in the world along sound, conservative lines, and it will be developed just as far and just as rapidly as responsible interest in it is country will permit."

What the Deal Means

This statement confirms a rumor that has been circulating for some time that the Zeppelin rights have been purchased by a big American firm, and that most air users would soon be manufactured in this country.

It is understood that, when these negotiations are completed, a corps of experienced Zeppelin designers and builders will be brought to Akron from the Zeppelin works at Friedrichshafen, where the German Government, Germany, where Count Ferdinand von Zeppelin built his first floating sheds and made his first successful experiments in the construction of rigid airships (rigid Zeppelins) in 1894.

From 1890 to 1919 the Zeppelin Co. built altogether 125 airships, of which three were experimental, nine commercial, and the rest military. It is a noteworthy fact that not a single passenger has been lost in any commercial Zeppelin since.

When the American was signed, ending the World War,



Official Photographs, U. S. Army Air Service

These are probably the most remarkable airplane photographs ever taken of the sinking of a battleship. The explosion of a bomb during the test is shown blowing water up on both sides of the ship and creating a funnel of black smoke and spray. In the next picture the old battleship is listing badly to port and the after deck is seen to be burning. In a minute or two she rolls over and a large plume of white smoke is seen streaming from the hole in the bottom of her hull. The stern guns, however, remain in the air, and then the proud old ship slides almost noiselessly to a watery grave.

So that our readers may have what can be regarded as an authoritative statement of the Navy's point of view regarding aviation we are printing the radio address of Capt. L. McNamee, Director of Naval Intelligence of the Navy, on "Aviation and The Navy." While AVIATION takes a much broader interest for aircraft in war than Captain McNamee realizes, it is always interesting to have all sides of any question squared up for discussion. AVIATION has occasionally heard that its treatment of the Navy's attitude toward aviation does not reflect the real point of view. It has taken the position that while recently the Navy has shown great interest in the development of aircraft, this has largely been in the form of protective measures for the defense of the fleet. As Admiral Moffett, Chief of the Bureau of Naval Aeronautics recently said:

"Out of three hundred and forty million dollars allowed for maintenance of the Navy, Naval Aviation is allowed less than fifteen million. On this meager appropriation we have managed to struggle along and hardly keep afloat."

"Aviation is dominating and controlling world conditions today. The overwhelming air force of France is enabling her to dictate terms. She is able to occupy German territory and hold it in defiance of the protests or action of any other power or nation."

"Until the advent of aviation, sea power, as exercised by our great naval master, Captain Mahan, had settled practically all wars in the history of the world. Air power has changed all this. In the present and in the future, wars will be settled by control of the air as well as by control of the sea."

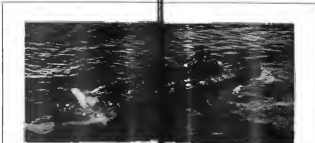
It is this fear war cost for Naval Aviation that seems to us unbalanced. We also feel that Captain McNamee is wrong when he says that if we had a "large air fleet" and no Army or Navy we would lose our territorial possessions. His assumptions must also give that the enemy, in a modest such forces as he understands the insignificance of those charged with the defense of our country. It will, however, be of interest for those concerned about the future of American aviation to read the Navy attitude as fearfully presented—ERROR.

There seems to be a good deal of misunderstanding among the general public as to the attitude of the Navy toward aviation.

Aviation and the Navy

By CAPT. L. MCNAMEE

Director of Naval Intelligence, Navy Department



The wrecked deck of the battleship Oregon after a bomb explosion had hit the stern. It is difficult, when viewing this picture, to agree with Captain McNamee when he claims that the ship sank with complete silence as a plane above.

Starting off with the assumption that aircraft will get all steps out of business, as certain widely advertised individuals maintain, it is only natural that the man in the street should picture naval officers as fighting to hold on to their jobs and opposing every new development in the air.

I have been in the Navy thirty-five years and I have seen the battleship get out of business on paper many times. First there was the gun. Small steamers with huge guns were going to surround the battleship like so many torpedoes and sink it in death. Then came the torpedo boat, the destroyer and the submarine that were to sink it with a torpedo costing only a few thousand dollars. Then the zeppelin and now the airplane bomber, that are to shatter destruction upon it from the sky. But the old battleship, like the old ship, is still there. Every new form of attack has developed a corresponding defense and the battleship still stands the backbone of every country's naval defense.

Protection Against Air Attack

Battleship protection against air attack will be of two kinds, defensive and offensive. The defensive consists in adding blisters or explosion chambers to the sides of the ship to prevent the ship's sides from being exploded away in the water. New battleships have this protection built into the hull. Additional steel decks will be added to old battleships to prevent penetration of the bombs that drop on board. In addition the battleship will be protected by high speed and constant change of course that will throw the bomber off his target, as well as the barrage of bombing shrapnel from anti-aircraft guns. Moreover the battleship will have to make the few of dozens of machine guns before he can get within range. These may all be added as defensive measures.

The fleet's offense will be from fighting planes issued by airplanes from the decks of the battleship itself. These fighting planes will have in their mission to shoot down the slow heavy bomber before he can get near enough to do any damage. That means that if the battleship is to get in his attack he must be protected by an escort of fighting planes. But the air protection of the battleship when near an enemy coast will be supplemented by additional fighting planes other than those the battleship itself can carry. These will be provided by aircraft that accompany the battleships. The fleet's aircraft provided with means for flying off and landing on the carriers and backed up by the fire of the fleet should make a most effective defense against land planes that would be fighting as we far removed from their bases, and certain of destruction.



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CURTISS WINS AGAIN



NAVY CURTISS RACER

On Sept. 28, 1923 at Cowes, England, the Navy Curtiss Seaplanes with Curtiss D-12 Motors took first and second place in the International Races, winning the SCHNEIDER CUP and establishing a NEW WORLD'S SPEED RECORD FOR SEAPLANES—177 MILES PLUS PER HOUR.

On Oct. 6, 1923 at St. Louis, U.S.A., the Navy Curtiss Racers with Curtiss D-12-A Motors took first and second place winning the PULITZER TROPHY for the third successive year and again establishing a NEW WORLD'S SPEED RECORD—243 MILES PLUS PER HOUR.

The Curtiss Reed one-piece duralumin propellers were used in all these ships as well as in the Curtiss Oriole when Casey Jones won the "On to St. Louis" Race.



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